After reading this article, you should be able to:

- Discuss how the sense of touch is interpreted by the brain.
- Describe the origin of the science of haptics as it relates to interior design.
- Explain how texture is imparted to different laminate materials.
- Discuss how laminate textures have evolved since the first laminates were introduced.

**THE ‘SENSATIONAL’ ROLE OF TEXTURE IN SURFACE DESIGN**

What’s the first thing you do when you see an intriguing wall covering, table top, or upholstered chair? You touch it, of course. You can’t help it. Your brain needs to know what it feels like.

Knowing how things feel-smooth, soft, warm, sticky, dusty—completes your perception of that item or material. This information, along with the visuals you captured, is catalogued in your mind so you can then say, “Yeah, I know what that is.”

As an architect or designer, yours is a sensorial world. You navigate, explore, and ultimately create through the experienced use of your senses. Given the opportunity (and the budgets), your goal is to create spaces that are, for lack of a better term, sensational.

Texture has a huge impact on our perceptions of the world around us and yet, compared to the other senses, there’s precious little research on this important channel of information.

What we do know is that, in the brain, touch and pressure are interpreted by the forward part of the parietal lobe, situated between the frontal lobe and the occipital lobe. The parietal lobe also manages taste and body awareness.

You may be surprised to know that the touch-and-pressure region is larger than the vision area of the occipital lobe, as well as the speech, concentration, planning, and problem-solving area of the frontal lobe. In fact, the only areas larger than touch-and-pressure are those that control motor control, body awareness (frontal lobe), coordination (cerebellum), and reading.
We’re all hungry for touch.

Materials play a big role in getting us away from the tablet or phone screen. We crave getting that feel of skin surfaces; our fingers are hungry for tactility. We used a lot of plastic in an exhibition recently because it’s so refreshingly to be in contact with something like that.

Research published in the National Institute of Health shows that not only do “shoppers read much more readily and form confident impressions about products with which they physically interact,” the materials used in the environment and packaging of a product instigate perceptions: “[M]aterials seem to taste better from a firm bottle than from a flimsy bottle.”

In other words, tactility acquired information exerts a rather broad influence over cognition, in ways of which we are probably often unaware.

Plainly put, touch is a very emotional thing.

Touch:

“Haptics,” from the Greek word for touch, is the science of understanding of why you feel what you feel when you touch or hold something, and how those perceptions might be controlled or influenced. The phrase “haptic feedback” is used to describe how we interact with technology. The way your electronic device lets you know you are touching it with minute vibrations, or high-tech cars will vibrate your seat to alert you that you’re about to back into your neighbor’s mailbox.

Haptics as a term fell into materials words began in Europe and crossed the Atlantic with the laminate flooring boom two decades ago.

When laminate flooring was first introduced in Europe, it offered many advantages over the existing products—higher durability, easier to keep clean, quick to install, easier on the environment, lower cost, etc.

But it had one significant drawback. Consumers noticed that the texture revealed in the finished laminate flooring that resulted from the heat and pressure was visually out of sync with the printed wood or tile designs.

The standard laminate finish is the time, a pebbled or stippled surface, has a flat feel, and when pressed on, it easily slides across your fingers. Manufacturers began to study haptics and experiment with technology that controls textures.

Some laminate manufacturers also use textured release papers to create patterns that change as you moved around the surface. Steel grate, step plate, hounds tooth, linen, burlap, suede, ostrich skin and other textures added a tactile design over the years.

EMBOSSED-IN-REGISTER (E.I.R)

Early in the 1970’s the first wood grain laminate finished the laminate market; it has never looked back with technology. The very nature of the laminate industry began to change perceptions of the material for the better, and different structures and scales were developed to mimic different wood species.

The first to tackle it, because their materials made up the bulk of the laminate flooring market. Printers and press plate producers shared their digital image files to create parallel designs, but quickly found out that papers and panels didn’t interfere with the rich colors and patterns of the decorative prints.

Looking at a woodgrain where the texture and pattern are even slightlly out of register is very disorienting. E.I.R technology is an all-or-nothing endeavor.显著

Haptic design over the years

The laminate surface texture on the surface and edges creates a strong impression of a natural surface structure without being in register with the printed design. This approach is seen often on long-straight woodgrains and mottled wood surfaces.

All of these characteristics must also be compatible with the surface layer of the laminate. the purpose is to improve the durability, ease of cleaning, and consumers began demanding an option that was more durable. Enter the ubiquitous “stipple” or CR (crystal) finish. This is the tiny-pebbled texture that still find on many, many laminate surfaces. The goal was to limit the amount of the texture that could be contacted by objects that might damage it. The stipple texture was deeper than previous designs; only a tiny fraction of the actual laminate surface is ever exposed to contact, minimizing potential damage.

The non-directional structure of the stipple finish is resistant to fingerprints and cleans easily.

Early woodgrain and tile texturizes

In the late 1970’s the first wood grain laminate finished the laminate market, and it has never looked back with technology. The very nature of the laminate industry began to change perceptions of the material for the better, and different structures and scales were developed to mimic different wood species.

The first E.I.R panels began to find their place along the laminate, capable of carrying the same visuals and textures. TFL, or Texture film laminate, was eventually prove to be a cost-effective, efficient alternative for all but the highest-value applications, where HPL was still the first choice.

E.I.R. Up until now, textures didn’t match the structure of the printed designs. Rather, they worked separately to convey “wood” or “stone.”

Embosed-in-register (E.I.R) flooring designs, introduced in the mid-1990s, were major leap forward for the entire laminate industry. The idea was to create surface textures that were in perfect register with a printed woodgrain or other design. The visuals and haptics of woodgrain kicks, cathedral arches, and knotty details would be in perfect alignment, delivering an unprecedented level of natural realism in an incredibly durable laminate material.

Executive E.I.R. laminates was a herculean challenge. TFL producers were the first to tackle it, because their materials made up the bulk of the laminate flooring market. Printers and press plate producers shared their digital image files to create parallel designs, but quickly found out that papers and panels didn’t interfere with the rich colors and patterns of the decorative prints.

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low-cost producers, negatively impacting broader adoption of the expensive E.I.R. technology by manufacturers.

E.I.R. in TFL panels has been slowly increasing its way into laminates for furniture and interiors, and has blossomed with the distressed, barn-board look we’ve seen in the last few years. It has become a stand-out addition to HPL. Beginning in 2003 with wall surfaces popular in bathroom-rooms in Scandinavia and Spain.

The combination of incredibly high-definition printing technology and matte/gloss and E.I.R. textures have helped to separate those materials from their predecessor past. The line between real and imitation has been blurring, so much so that even furniture experts can be fooled. At the same time, design specialists are finding values in the positives of realistic texturization—dramatically different design consistency, and access to rare and unusual species without requiring their harvesting.

The most important human beings are having for new experiences, visiting new places, tasting new foods, hearing new sounds, breathing in new smells, and touching new textiles. We’re not only looking to saturate our senses—sometimes we’ll just be starved to be surprised by something new and unexpected.

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